ALTURBINE

Turbine Flowmeter

Series ALTM-T

GENERAL

ALTM Turbine Flow Meters

ALTM turbine flow meters (hereinafter referred to as turbines) are used for the precise measurement of instantaneous flow of low-viscosity fluids rates and flow quantities such as; tap and demineralised water, fuels, liquefied gases, Light fuel oil, solvents, Pharmaceutical fluids, etc. Turbine Flowmeters measure volumetric flow, where flow passing through the tube is measured by the mean velocity of the streaming fluid. Flow rectifiers ensure a laminar flow in the axial direction of the wheel. A light-weight turbine wheel carried concentrically in the tube body is rotated by the fluid. The RPM of the turbine wheel is directly proportional to the mean flow velocity within the tube diameter and corresponds to the volume flow over a wide range.

FEATURES

- Fast response time and high resolution within 5 to 50 msec
- Temperature range from -20 up to +120°C
- Easily cleaned and designed to flushed particulates through the turbine with the medium
- For very low flows designed with sapphire bearings
- Factory calibrated

SPECIFICATION

- Connection: Thread for less than DN40
  Flange for bigger than DN15
- Line Size 4mm ~ 200mm
- Working Temperature: -20 ~ +120 deg C
- Working Pressure: up to 25 Mpa
- Accuracy: Standard: ±1% of reading;
  Optional: ±0.5% of reading
- Material: Housing: Standard - 304 Stainless Steel
  Optional - 316 Stainless Steel
  Bearings and Shaft: Tungsten Carbide
  Rotor: Standard - 2Cr13 Stainless Steel
  (Optional Alloy CD4Mcu)
  Retaining Rings: 316 Stainless Steel
- Fluid viscosity: up to 20 CP
- Transmitter connection: M20×1.5 Female
- Protection Level: IP65
- Explosion Proof: ExdII BT6 , ExiaII CT4
- Ambient Temperature: -10°C to +55°C
- Ambient Pressure: 86 to 106 KPa
- Relative Humidity: 5% to 90%
- Power Supply: DC, 3.2V Lithium Battery
- Signal Output (std): pulse, or 4-20mA
  (opt): RS485, HART
- Signal Transmission Distance: ≤1,000 m

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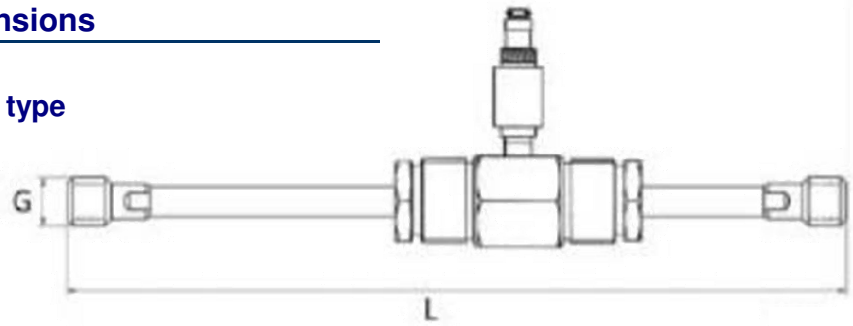
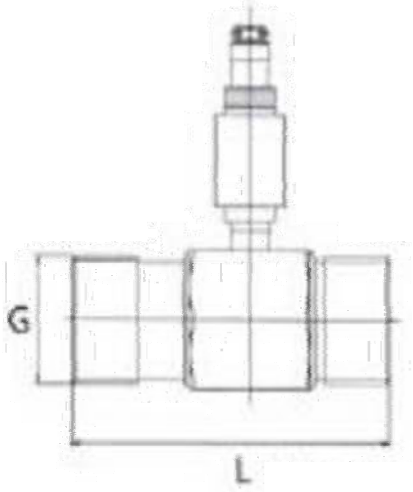
Drawing of Dimensions

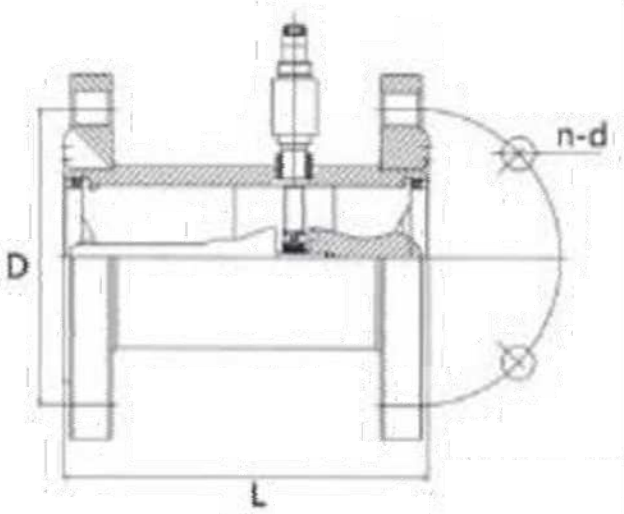
DN4-DN10: Thread type



DN15-DN40: Thread type



DN15-DN200: Flange type

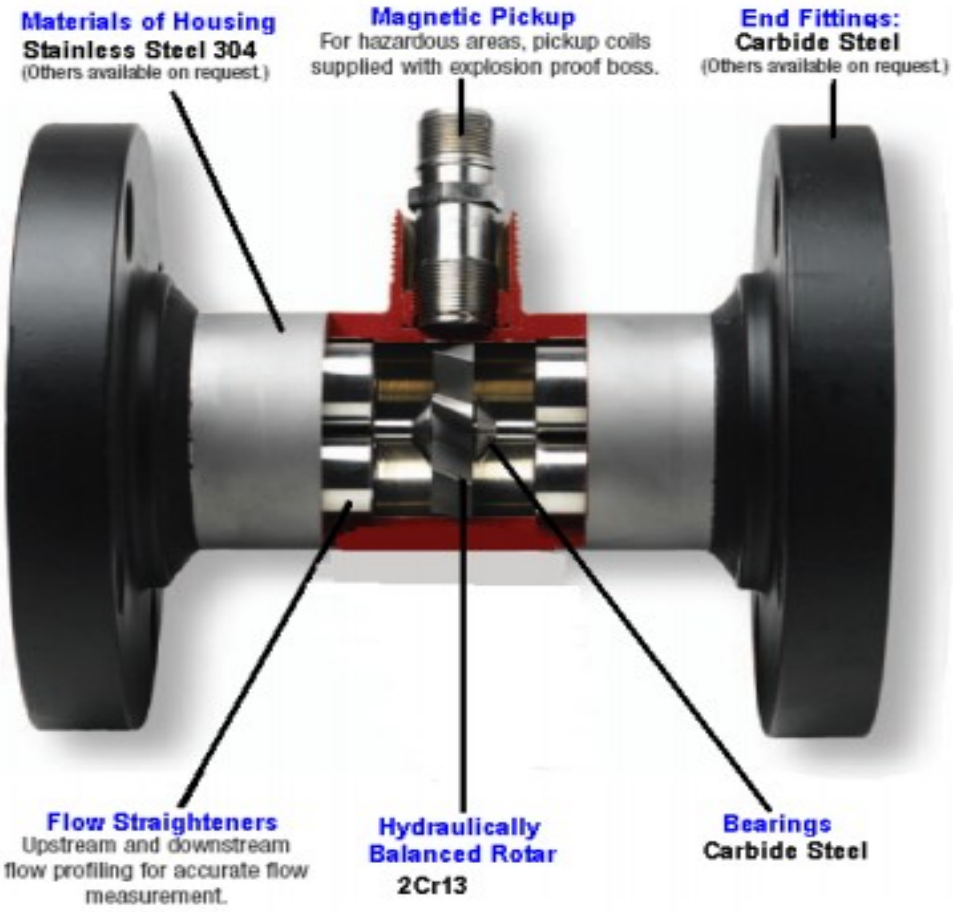


Size (mm)	Size (in)	L (mm)	G	D (mm)	d (mm)	n(Bolts)
Flange:ISO7005-1 RF						
4	0.15	295	G 1/2	Threaded Connection		
6	0.25	330	G 1/2			
10	0.4	450	G 1/2			
15	0.5	75	G 1	65	14	4
20	0.75	80	G 1	75	14	4
25	1	100	G 1 1/4	85	14	4
32	1.25	140	G 2	100	14	4
40	1.5	140	G 2	110	18	4
50	2	150	Flange Connection	125	18	4
65	2.5	170		145	18	4
80	3	200		160	18	8
100	4	220		180	18	8
125	5	250		210	22	8
150	6	300		240	22	8
200	8	360		295	28	12
Flange:ANSI 600						
15	0.5	90		66.5	16	4
25	1	115		89	20	4

Flow Range and Pressure Rate

Nominal Diameter (mm)	(in)	Standard Flow Range (m3/h)	Extended Flow Range (m3/h)	Standard Pressure Rating (MPa)	Customized Pressure Rating (MPa)-Flange Fitting
4	0.15	0.04 to 0.25	0.04 to 0.4	Thread:6.3	12,16,25
6	0.25	0.1 to 0.6	0.06 to 0.6	Thread:6.3	12,16,25
10	0.4	0.2 to 1.2	0.15 to 1.5	Thread:6.3	12,16,25
15	0.5	0.6 to 6	0.4 to 8	Thread:6.3 Flange:2.5	4.0,6.3,12,16,25
20	0.75	0.8 to 8	0.45 to 9	Thread:6.3 Flange:2.5	4.0,6.3,12,16,25
25	1	1 to 10	0.5 to 10	Thread:6.3 Flange:2.5	4.0,6.3,12,16,25
32	1.25	1.5 to 15	0.8 to 15	Thread:6.3 Flange:2.5	4.0,6.3,12,16,25
40	1.5	2 to 20	1 to 30	Thread:6.3 Flange:2.5	4.0,6.3,12,16,25
50	2	4 to 40	2 to 40	Flange:2.5	4.0,6.3,12,16,25
65	2.5	7 to 70	4 to 70	Flange:2.5	4.0,6.3,12,16,25
80	3	10 to 100	5 to 100	Flange:2.5	4.0,6.3,12,16,25
100	4	20 to 200	10 to 200	Flange:1.6	4.0,6.3,12,16,25
125	5	25 to 250	13 to 250	Flange:1.6	2.5,4.0,6.3,12,16
150	6	30 to 300	15 to 300	Flange:1.6	2.5,4.0,6.3,12,16
200	8	80 to 800	40 to 800	Flange:1.6	2.5,4.0,6.3,12,16

Drawing of Structure



**** Please contact your local SMC application engineer**

You also need to provide the following information:

Type of liquid	We need the name of your liquid, including operating density and viscosity
Full Scale Flow	Maximum and minimum flow rates, units must be volumetric flow such as LPM or gpm, etc..
Line Size	we need to know your pipe size as well connection type (flange, threaded, etc..)
Process Pressure and Temperature	We calibration your Flowmeter as close to your application as possible
Pressure drop	Please indicated the maximum pressure drop (see graph) that your process can withstand
Type of Electronics	Indicate if you want integral, remote panel or remote wall mounted
Power Requirements	Specify your power requirements such as 24 VDC or battery

Model Selection Guide

ALTM-T Series								
ALTM-T-	*-	*-	*-	*-	*-	*		
Nominal Dia: 4mm	004							Size
Nominal Dia: 6mm	006							
Nominal Dia: 10mm	010							
Nominal Dia: 15mm	015							
Nominal Dia: 20mm	020							
Nominal Dia: 25mm	025							
Nominal Dia: 32mm	032							
Nominal Dia: 40mm	040							
Nominal Dia: 50mm	050							
Nominal Dia: 65mm	065							
Nominal Dia: 80mm	080							
Nominal Dia: 100mm	100							
Nominal Dia: 125mm	125							
Nominal Dia: 150mm	150							
Nominal Dia: 200mm	200							
Nominal Dia: 300mm insertion	I300							
Basical counter - pluse output and blind		N						Transmitter style
Basical counter - analog output and blind		A						
Battery counter - with display and no outputs		B						
DC power counter - Analog outputs and display		C						
1.6 Mpa			1.6					Working Pressure
2.5 Mpa - up to DN80			2.5					
4.0 Mpa - up to DN40			4.0					
6.3 Mpa - up to DN25			6.4					
304SS				G				Flowbody material
Movement part plated Ti				PT				
316				316				
Other marerial				OM				
NONE					NN			Communication
RS485					485			
HART					HART			
None option						NN		Option
Exd proof - ExdIIBT6						EX		
Flow computer						FC		